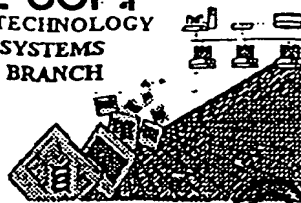


BEST AVAILABLE COPY

BIOTECHNOLOGY
SYSTEMS
BRANCH



COPY

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/823,964
Source: IFW01
Date Processed by STIC: 4/21/09

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 703-308-4212; FAX: 703-308-4221

Effective 12/13/03: TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/clkr41note.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/cfs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry directly to (EFFECTIVE 12/03/03):
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two,
2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office,
Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 10/08/03

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER:.

$$\overline{10} \overline{823,964}$$

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE.

- 1 **Wrapped Nucleics**
Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

2 **Invalid Line Length** The rules require that a line not exceed 72 characters in length. This includes white spaces.

3 **Misaligned Amino**
Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

4 **Non-ASCII** The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

5 **Variable Length** Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6 **PatentIn 2.0**
"bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

7 **Skipped Sequences**
(OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences

8 **Skipped Sequences**
(NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence
<210> sequence id number
<400> sequence id number
000

9 **Use of n's or Xaa's**
(NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

10 **Invalid <213>**
Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence

11 **Use of <220>**

Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

12 **PatentIn 2.0**
"bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13 **Misuse of n/Xaa** "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IF

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/823,964

DATE: 04/21/2004

TIME: 07:41:49

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\04212004\J823964.raw

4 <110> APPLICANT: BAM, NARENDRA
 5 BONGERS, JACOB
 6 KIRKPATRICK, ROBERT B.
 7 JANSON, CHERYL A.
 8 JOHANSON, KYUNG
 9 QIU, XIANYANG
 10 YEH, PING
 12 <120> TITLE OF INVENTION: CONJUGATES COMPRISING HUMAN IL-18 AND
 13 SUBSTITUTION MUTANTS THEREOF
 16 <130> FILE REFERENCE: PU60053
 18 <140> CURRENT APPLICATION NUMBER: US/10/823,964
 19 <141> CURRENT FILING DATE: 2004-04-14
 21 <150> PRIOR APPLICATION NUMBER: 60/462,947
 22 <151> PRIOR FILING DATE: 2003-04-15
 24 <160> NUMBER OF SEQ ID NOS: 28
 26 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 28 <210> SEQ ID NO: 1
 29 <211> LENGTH: 157
 30 <212> TYPE: PRT
 31 <213> ORGANISM: Homo sapiens
 33 <400> SEQUENCE: 1
 34 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 35 1 5 10 15
 36 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
 37 20 25 30
 38 Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
 39 35 40 45
 40 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
 41 50 55 60
 42 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
 43 65 70 75 80
 44 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
 45 85 90 95
 46 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
 47 100 105 110
 48 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
 49 115 120 125
 50 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
 51 130 135 140
 52 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
 53 145 150 155
 56 <210> SEQ ID NO: 2
 57 <211> LENGTH: 157

Does Not Comply
Corrected Diskette Needed

(pg. 3-6)

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/823,964

DATE: 04/21/2004

TIME: 07:41:49

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\04212004\J823964.raw

58 <212> TYPE: PRT

59 <213> ORGANISM: Mus musculus

61 <400> SEQUENCE: 2

```

62 Asn Phe Gly Arg Leu His Cys Thr Thr Ala Val Ile Arg Asn Ile Asn
63 1 5 10 15
64 Asp Gln Val Leu Phe Val Asp Lys Arg Gln Pro Val Phe Glu Asp Met
65 20 25 30
66 Thr Asp Ile Asp Gln Ser Ala Ser Glu Pro Gln Thr Arg Leu Ile Ile
67 35 40 45
68 Tyr Met Tyr Lys Asp Ser Glu Val Arg Gly Leu Ala Val Thr Leu Ser
69 50 55 60
70 Val Lys Asp Ser Lys Met Ser Thr Leu Ser Cys Lys Asn Lys Ile Ile
71 65 70 75 80
72 Ser Phe Glu Glu Met Asp Pro Pro Glu Asn Ile Asp Asp Ile Gln Ser
73 85 90 95
74 Asp Leu Ile Phe Phe Gln Lys Arg Val Pro Gly His Asn Lys Met Glu
75 100 105 110
76 Phe Glu Ser Ser Leu Tyr Glu Gly His Phe Leu Ala Cys Gln Lys Glu
77 115 120 125
78 Asp Asp Ala Phe Lys Leu Ile Leu Lys Lys Lys Asp Glu Asn Gly Asp
79 130 135 140
80 Lys Ser Val Met Phe Thr Leu Thr Asn Leu His Gln Ser
81 145 150 155

```

84 <210> SEQ ID NO: 3

85 <211> LENGTH: 203

86 <212> TYPE: PRT

87 <213> ORGANISM: Homo sapiens

89 <400> SEQUENCE: 3

```

90 Met His His His His His Thr Arg Gly Met Ala Ala Glu Pro Val
91 1 5 10 15
92 Glu Asp Asn Cys Ile Asn Phe Val Ala Met Lys Phe Ile Asp Asn Thr
93 20 25 30
94 Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn Leu Glu Ser Asp Tyr Phe
95 35 40 45
96 Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn Asp Gln
97 50 55 60
98 Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp Met Thr
99 65 70 75 80
100 Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile Ile Ser
101 85 90 95
102 Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile Ser Val
103 100 105 110
104 Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile Ile Ser
105 115 120 125
106 Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys Ser Asp
107 130 135 140
108 Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys Met Gln
109 145 150 155 160
110 Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu Lys Glu

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/823,964

DATE: 04/21/2004

TIME: 07:41:49

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\04212004\J823964.raw

111 165 170 175
 112 Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu Gly Asp
 113 180 185 190
 114 Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
 115 195 200
 118 <210> SEQ ID NO: 4
 119 <211> LENGTH: 157
 120 <212> TYPE: PRT
 121 <213> ORGANISM: Artificial Sequence
 123 <220> FEATURE:
 124 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
 125 IL-18 sequence has been replaced with Serine.
 127 <400> SEQUENCE: 4
 128 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 129 1 5 10 15
 130 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
 131 20 25 30
 132 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
 133 35 40 45
 134 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
 135 50 55 60
 136 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
 137 65 70 75 80
 138 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
 139 85 90 95
 140 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
 141 100 105 110
 142 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
 143 115 120 125
 144 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
 145 130 135 140
 146 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
 147 145 150 155
 150 <210> SEQ ID NO: 5
 151 <211> LENGTH: 157
 152 <212> TYPE: PRT
 153 <213> ORGANISM: Artificial Sequence
 155 <220> FEATURE:
 156 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
 157 IL-18 sequence has been replaced with Serine, the
 158 Cysteine at position 68 has been replaced with
 159 Aspartic acid, and the Asparagine at position 78
 160 ~~220~~ ~~223~~ has been replaced with Cysteine.
 162 <400> SEQUENCE: 5
 163 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 164 1 5 10 15
 165 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
 166 20 25 30
 167 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile

please explain, please see
 item #11 on
 error
 summary
 sheet.

Per new sequence rules, please
 use a maximum of
 4 lines for (223)
 explanations.

? ASN is at
 position 78.

RAW SEQUENCE LISTING

DATE: 04/21/2004

PATENT APPLICATION: US/10/823,964

TIME: 07:41:49

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\04212004\J823964.raw

168 35 40 45
169 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
170 50 55 60
171 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
172 65 70 75 80
173 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
174 85 90 95
175 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
176 100 105 110
177 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
178 115 120 125
179 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
180 130 135 140
181 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
182 145 150 155

185 <210> SEQ ID NO: 6

186 <211> LENGTH: 157

187 <212> TYPE: PRT

188 <213> ORGANISM: Artificial Sequence

190 <220> FEATURE:

191 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human

192 IL-18 sequence has been replaced with Serine, the

193 Cysteine at position 68 has been replaced with

194 Aspartic acid, and the Glutamic acid at position

195 ~~220~~ 121 has been replaced with Cysteine.

197 <400> SEQUENCE: 6

198 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
199 1 5 10 15
200 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
201 20 25 30
202 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
203 35 40 45
204 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
205 50 55 60
206 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
207 65 70 75 80
208 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
209 85 90 95
210 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
211 100 105 110
212 Met Gln Phe Glu Ser Ser Ser Tyr Cys Gly Tyr Phe Leu Ala Cys Glu
213 115 120 125
214 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
215 130 135 140
216 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
217 145 150 155

220 <210> SEQ ID NO: 7

221 <211> LENGTH: 157

222 <212> TYPE: PRT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/823,964

DATE: 04/21/2004

TIME: 07:41:49

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\04212004\J823964.raw

223 <213> ORGANISM: Artificial Sequence
 225 <220> FEATURE:
 226 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
 227 IL-18 sequence has been replaced with Serine, the
 228 Cysteine at position 68 has been replaced with
 229 Aspartic acid, and the Leucine at position 144 has
 230 been replaced with Cysteine.

Same error

232 <400> SEQUENCE: 7
 233 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 234 1 5 10 15
 235 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
 236 20 25 30
 237 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
 238 35 40 45
 239 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
 240 50 55 60
 241 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
 242 65 70 75 80
 243 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
 244 85 90 95
 245 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
 246 100 105 110
 247 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
 248 115 120 125
 249 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Cys
 250 130 135 140
 251 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
 252 145 150 155

255 <210> SEQ ID NO: 8

256 <211> LENGTH: 157

257 <212> TYPE: PRT

258 <213> ORGANISM: Artificial Sequence

260 <220> FEATURE:

261 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human
 262 IL-18 sequence has been replaced with Serine, the
 263 Cysteine at position 68 has been replaced with
 264 Aspartic acid, Aspartic acid at position 157 has
 265 been replaced with Cysteine.

Same error

267 <400> SEQUENCE: 8
 268 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 269 1 5 10 15
 270 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
 271 20 25 30
 272 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
 273 35 40 45
 274 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
 275 50 55 60
 276 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
 277 65 70 75 80

The type of errors shown exist throughout
 the Sequence Listing. Please check subsequent
 sequences for similar errors.

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/823,964

DATE: 04/21/2004

TIME: 07:41:50

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\04212004\J823964.raw

M:270 C: Current Application Number differs, Replaced Current Application Number

M:259 W: Allowed number of lines exceeded, <223> Other Information: ✓

M:259 W: Allowed number of lines exceeded, <223> Other Information: ✓

M:259 W: Allowed number of lines exceeded, <223> Other Information: ✓

M:259 W: Allowed number of lines exceeded, <223> Other Information: ✓

M:259 W: Allowed number of lines exceeded, <223> Other Information: ✓

M:259 W: Allowed number of lines exceeded, <223> Other Information: ✓